

AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for testing a multi-device enclosure that contains multiple devices and at least one processor, the method comprising:

controlling a number of bypass circuits to bypass a number of external communications medium connectors to isolate the multi-device enclosure from an external communications medium;

internally testing the multi-device enclosure by running a self-test routine on an internal processor; and

when the multi-device enclosure passes the testing,

controlling a number of bypass circuits to connect the number of external communications medium connectors to the external communications medium.

91 2. (original) The method of claim 1 wherein testing the multi-device enclosure further comprises:

controlling a number of bypass circuits to isolate the devices from an internal communications medium;

testing the internal communications medium;

when the internal communications medium passes the testing,

for each device,

controlling a bypass circuit to connect the device to the internal communications medium,

testing the device, and

when the device fails testing,

controlling a bypass circuit to disconnect the device from the internal communications medium, and

returning an indication that the testing of the multi-device enclosure has succeeded; and

when the internal communications medium fails the testing,

returning an indication that the testing of the multi-device enclosure has failed.

3. (original) The method of claim 2 wherein the external communications medium and the internal communications medium are both portions of a fibre channel arbitrated loop.

4. (original) The method of claim 3 wherein controlling a number of bypass circuits to bypass a number of external communications medium connectors to isolate the multi-device enclosure from an external communications medium further includes:

controlling a bypass circuit to bypass a primary external communications medium connector to isolate the multi-device enclosure from the upstream portion of the fibre channel arbitrated loop; and

controlling a bypass circuit to bypass an expansion external communications medium connector to isolate the multi-device enclosure from the downstream portion of the fibre channel arbitrated loop.

5. (original) The method of claim 3 wherein the multi-device enclosure may be connected to two fibre channel arbitrated loops and wherein controlling a number of bypass circuits to bypass a number of external communications medium connectors to isolate the multi-device enclosure from an external communications medium further includes:

controlling two bypass circuits to bypass two primary external communications medium connectors to isolate the multi-device enclosure from the upstream portions of two fibre channel arbitrated loops; and

controlling two bypass circuits to bypass two expansion external communications medium connectors to isolate the multi-device enclosure from the downstream portions of two fibre channel arbitrated loops.

6. (original) The method of claim 3 wherein testing the internal communications medium includes sending a loop initialization primitive around the internal portion of the fibre channel arbitrated loop.

7. (original) The method of claim 3 wherein testing a device includes:

sending a loop initialization primitive around the internal portion of the fibre channel arbitrated loop.

8. (original) The method of claim 7 wherein testing a device further includes:

issuing commands to the device to cause the device to undergo a self-test and to solicit information from the device about the device.

9. (original) The method of claim 8 wherein the commands issued to the device are small computer systems interconnect enclosure services commands.

61 10. (original) A method for testing a multi-device enclosure that contains multiple devices, the method comprising:

controlling a number of bypass circuits to isolate the devices from an internal communications medium;

when the internal communications medium passes the testing,

for each device,

controlling a bypass circuit to connect the device to the internal communications medium,

testing the device, and

when the device fails testing,

controlling a bypass circuit to disconnect the device from the internal communications medium, and

returning an indication that the testing of the multi-device enclosure has succeeded; and

when the internal communications medium fails the testing,

returning an indication that the testing of the multi-device enclosure has failed.

11. (original) The method of claim 10 further including:

when a device malfunctions during operation of the multi-device enclosure,

controlling a bypass circuit to disconnect the device from the internal communications medium.

12. (original) A self-testing multi-device enclosure comprising:

an internal communications medium;

a number of devices interconnected by the internal communications medium;

a number of connectors that connect the multi-device enclosure to an external communications medium;

bypass circuits that can be controlled to isolate devices from, and connect devices to, the internal communications medium;

bypass circuits that can be controlled to isolate connectors from, and connect connectors to, the external communications medium;

a processor; and

a self-test routine that runs on the processor to test the internal communications medium and the number of devices and to control bypass circuits to isolate the multi-device enclosure during self-testing from the external communications medium and to isolate the devices from the internal communications medium.

13. (original) The self-testing multi-device enclosure of claim 12 wherein the internal communications medium and the external communications medium are portions of a fibre channel arbitrated loop.

14. (original) The self-testing multi-device enclosure of claim 13 wherein the number of devices include devices that exchange data and control information with other devices connected to the fibre channel arbitrated loop.

15. (original) The self-testing multi-device enclosure of claim 14 wherein the self-test routine

controls a number of bypass circuits to bypass a number of connectors to isolate the multi-device enclosure from the external communications medium;

tests the multi-device enclosure; and

when the multi-device enclosure passes the testing,
controls a number of bypass circuits to connect the number of connectors to
the external communications medium.

16. (original) The self-testing multi-device enclosure of claim 15 wherein, after isolating
the multi-device enclosure from the external communications medium, the self-test
routine tests the multi-device enclosure by:

controlling a number of bypass circuits to isolate the devices from the internal
communications medium;

testing the internal communications medium;

when the internal communications medium passes the testing,

for each device,

controlling a bypass circuit to connect the device to the internal
communications medium,

testing the device, and

when the device fails testing,

controlling a bypass circuit to disconnect the device from
the internal communications medium, and

returning an indication that the testing of the multi-device enclosure has
succeeded; and

when the internal communications medium fails the testing,

returning an indication that the testing of the multi-device enclosure has
failed.

17. (original) The self-testing multi-device enclosure of claim 16 wherein controlling a
number of bypass circuits to bypass a number of external communications medium
connectors to isolate the multi-device enclosure from an external communications
medium further includes:

controlling a bypass circuit to bypass a primary external communications medium
connector to isolate the multi-device enclosure from the upstream portion of the fibre
channel arbitrated loop; and

controlling a bypass circuit to bypass an expansion external communications medium connector to isolate the multi-device enclosure from the downstream portion of the fibre channel arbitrated loop.

18. (original) The self-testing multi-device enclosure of claim 17 wherein testing the internal communications medium includes sending a loop initialization primitive around the internal portion of the fibre channel arbitrated loop.

Al 19. (original) The self-testing multi-device enclosure of claim 17 wherein testing a device includes:

 sending a loop initialization primitive around the internal portion of the fibre channel arbitrated loop.

20. (original) The self-testing multi-device enclosure of claim 19 wherein testing a device further includes:

 issuing commands to the device to cause the device to undergo a self-test and to solicit information from the device about the device.
